Amendment to the Claims:

The below listing of claims replaces all prior versions and listings of claims in the application:

1. (Currently Amended) Continuous multi-microencapsulation process of biologically active materials[[,]] by means of in situ interfacial polymerization ~~of biologically active materials~~ characterized in that the process is performed under continuous agitation and comprises the following steps:[[,]]

(a) in a first step [[it]] a water phase is emulsified into ~~added to~~ an oil phase; wherein ~~[that contains optionally at least a biologically active material a water phase containing a polymerization initiator and optionally, at least a biologically active material]; further exists at least one surfactant in at least one of the two mentioned phases, and there exists a biologically active material in at least one of the two phases,~~

a.1. a polymerization initiator exists in the water phase,

a.2. an emulsifier exists in the oil or in the water phase,

a.3. at least a biologically active ingredient exists in the oil and/or in the water phase;

(b) [[In]] in a second step, ~~it is added [to (a)]~~ a solution or dispersion in water that contains at least one hydrocolloid is added to the emulsion, wherein the hydrocolloid is polymerizable due to the polymerization initiator, this producing a phase inversion and the ~~hydrocolloid~~ polymerization and ~~begins to be deposited and polymerized on the walls of the new formed drops [consisting~~

~~in a water in oil emulsion], occurring also a~~ cross-linking of the polymerizable hydrocolloid(s) ~~polymers, optionally in the presence of cations,~~ onto the water in oil droplets;

(c) [[In]] in a third step, ~~it is added [to (b)]~~ a solution or dispersion in water that contains at least one protective colloid is added[[,]] that begins to be deposited on the surface of the drops of water in oil, and to polymerize and cross-link with itself and the hydrocolloid,

(d) [[In]] in a fourth step, [[it]] a solution or dispersion in water of a surfactant is added ~~[to (c)] a solution or dispersion in water of a primary surfactant that~~ to allows a reduction of the size of the water in oil drops,

(e) [[In]] in a fifth step, during the process of reduction of size, the partially formed microcapsules are deaglomerated and reaglomerated, ~~happening eventually ah~~ such that an enclosure of drops inside bigger drops eventually happens ~~(multi-microencapsulation),~~; and

(f) when enough time has passed in order that the oil ~~[water in oil]~~ and/or water in oil drops are covered by at least one hydrocolloid and at least ~~a~~ one protective colloid, the temperature is increased in order to strengthen the wall of the ~~mentioned drops; at this time the drops are already~~ formed microcapsules or multi-microcapsules suspended in water.

~~(g) Optionally, the formulation is dried for obtaining dust, optionally it is reformulated by means of state of the art techniques to obtain (or to mix the microcapsules with) wettable powders, gels, cosmetic creams or medicinal,~~

~~bath products, microorganism media; optionally additives are added (optionally antiagglomerating agents) for microcapsules' dried formulations.~~

~~(h) All the process except optionally step (g) is carried out under continuous agitation.~~

2–4. (Cancelled)

5. (Currently Amended) Process of microencapsulation ~~of biologically active materials~~ according to claim 1 characterized in that the hydrocolloid(s) of the second step and ~~the~~ protective colloids of the third step are ~~preferably~~ chosen from ~~among~~ the group ~~of~~: chitosans, starch, dextrins, cyclodextrins, celluloses, ~~lignin~~, pectines, agar, alginates, carrageens, gelatins, seed gums, xantan gum, guar gum, acacia gum, arabic gum, *Caraya* gum, *Cerationia siliqua* gum, *Pysllium* gum, ~~arable gum~~, gelatin, tragacanths, lignin, lignosulfonates, ~~Caraya gum, Cerationia siliqua gum,~~ saponines, ~~xantan gum, seed gums,~~ galactomanans, arabanogalactams, beta-glucans, inulin~~, psyllium, acacia gum~~; in all their isomeric and stereochemical forms, in all their variations regarding quantity and proportion of monomers or oligomers constituting the hydrocolloid, in their natural or derivatized forms, ~~in all presentation forms,~~ and as their salts of metal cations or nitrogenated, sulfurated or phosphorinated derivatives, albumin, polyarboxylates, poli-L-lactid ~~compounds, as well as any derivatization form of the aforementioned hydrocolloids~~.

6–13. (Cancelled)

14. (Currently Amended) Process of microencapsulation of biologically active materials according to claim 1, characterized in that the aqueous solution of hydrocolloid contains a binary or ternary mixture of the hydrocolloids ~~selected~~.

15–22. (Cancelled)

23. (Currently Amended) Process of microencapsulation according to claim 1, characterized in that after the drying of the microcapsules, these are reformulated and dispersed in an oil phase or in a gel or in any semi-solid material or ethanolic solution or organic solvent.

24–26. (Cancelled)

27. (Withdrawn) Microcapsules produced by a continuous process of microencapsulation, characterized in that:

(a) contain biologically active materials;

(b) the microcapsules wall is made by a mixture of at least two hydrocolloids (including hydrogels as particular case of hydrocolloids), such mixture polymerized and cross-linked,

(c) the polymerization and cross-linking grade and the nature of hydrocolloids influence the release rate and the protection against oxygen and/or light and/or temperature,

(d) the microcapsules have in their core an emulsion water in oil, existing optionally biologically active materials in the oil phase, optionally in the water phases and optionally in all continuous phases, and moreover, the core of the microcapsules may contain smaller microcapsules (multi-microencapsulation possible at least to five degrees),

(e) the mean particle size measured with a Master Sizer type laser equipment is 0.1-100 urn, preferably 1-10 urn,

(f) at least a biologically active ingredient is present in at least a discontinuous oil phase and/or in a discontinuous water phase they are produced by a continuous process of multi-microencapsulation process by interfacial in-situ polymerization process.

28–29. (Cancelled)

30. (Withdrawn) Microcapsules according claim 27 characterized in that they are used for providing anabolites and/or nutrients in microbiological cultures in a constant or quasi-constant rate.

31–33. (Cancelled)

34. (Withdrawn) Microcapsules according claim 27 characterized in that they are used for providing beneficial for the health materials and the microcapsules are added to natural or synthetic sweeteners, salt, pepper, spices and other condiments, in such a way that the addition of such condiments to other foodstuffs increment the nutritive value or the health benefit of such foodstuffs.

35–39. (Cancelled)

40. (Previously Presented) Process of microencapsulation of biologically active materials according to claim 1, characterized in that at least one of the biologically active materials present in the formulation consist in probiotic bacteria, optionally acid lactic-bacteria and more preferably chosen among the group: Lactobacillus casei., L. acidophillus, L. rhamnosus, L. paracasei, L. gasseri, L. fermentum, L. plantarum, L. salivarius, L. crispatus, L. bulgaricus, L. fermentum, L. reuteri, Bifidobacterium infantis, B. bifidum, Streptococcus termophilus, S. bovis, Enterococcus durans, E. faecalis, E. Gallinarum, Escherichia coli, Propionibacterium freudenreicheii, or bacteria or fungi or yeasts genetically modified in that the beneficial genes -characterizing the beneficial properties of probiotic bacteria- have been inserted.

41–56. (Cancelled)

57. (Withdrawn) Microcapsules produced according to claim 27, characterized in that the are stable (no opening of the microcapsule's wall) at pH higher than 3.5.

58–83. (Cancelled)

84. (New) Process of microencapsulation according to claim 1 characterized in that it is carried out under reduced pressure.

85. (New) Process of microencapsulation according to claim 1 characterized in that it is carried out in the presence of an inert gas.

86. (New) Process of microencapsulation according to claim 1 characterized in that it is carried out protected from visible or ultraviolet light.

87. (New) Process of microencapsulation according to claim 1 characterized in that the emulsions and reduction of particle size are performed at an agitation speed of 3000 to 25000 rpm.

88. (New) Process of microencapsulation according to claim 1 characterized in that the size of the droplets of the emulsion of the first step is of 50-500 μm.

89. (New) Process of microencapsulation according to claim 88 characterized in that the size of the droplets of the emulsion of the first step is 70-200 μm.

90. (New) Process of microencapsulation according to claim 1 characterized in that the hydrocolloid of the second step and the protective colloid(s) of the third step are added together in the form of an aqueous solution or dispersion.

91. (New) Process of microencapsulation according to claim 1 characterized in that the protective colloid(s) belong to the chemical group of hydrocolloids.

92. (New) Process of microencapsulation according to claim 1 characterized in that the oil phase is comprised of an hydrogenated oil or a wax or honey.

93. (New) Process of microencapsulation according to claim 1 characterized in that one of the emulsifiers used is based in soya containing compounds.

94. (New) Process of microencapsulation according to claim 1 characterized in that one of the emulsifiers added in the fourth step is a glyceride ester derivative.

95. (New) Process of microencapsulation according to claim 1 characterized in the emulsifiers added in step is a glycerol ester of tartaric acid.

96. (New) Process of microencapsulation according to claim 1 characterized in that the emulsifier used in the fourth step has a HLB of 12-14.

97. (New) Process of microencapsulation according to claim 1 characterized in that the viscosity modifier is a xanthan gum.

98. (New) Process of microencapsulation according to claim 1 characterized in that the hydrocollolds used in second step are of the type of alginates.

99. (New) Process of microencapsulation according to claim 1 characterized in that the protective colloid is arabic gum.

100. (New) Process of microencapsulation according to claim 1 characterized in that it is added a further biologically active ingredient in any step of the process, in the form of a solution, dispersion or emulsion.

101. (New) Process of microencapsulation according to claim 1 characterized in that the water phases contain at the most 40% of an alcohol of molecular weight up to 144 units of atomic mass.

102. (New) Process of microencapsulation according to claim 1 characterized in that the oil phase consists in fish oil with omega-3 fatty acids or in an arachidonic acid enriched oil or in conjugated linoleic acids.

103. (New) Process of microencapsulation according to claim 1 characterized in that the oil phase consists in a vegetable oil extract of flax oil or *Borago spp.*

104. (New) Process of microencapsulation according to claim 1 characterized in that the hydrocolloids used for forming the wall, allow the release of the content of the microcapsules at pH lower than 3.

105. (New) Process of microencapsulation according to claim 1 characterized in that the oil phase contains vitamin E or ascorbyl palmitate and at least one water phase contains ascorbic acid.

106. (New) Process of microencapsulation according to claim 1 for its use in production of foodstuffs enriched with biologically active materials, characterized in that:

(a) the process is kept at about 30-70 °C until the finalization of the polymerization and cross-linking reactions and then the temperature is raised to about 60-100 °C in order to cure the microcapsules;

(b) the final microcapsules have an average size of about 1-30 μm;

(c) after the curing step, it is added a food-grade viscosity modifier;

(d) during the process only food-grade emulsifiers are used.

107. (New) Process of microencapsulation according to claim 1 characterized in that it is added an additional step of microbiological stabilization by means of pasteurization, UHT, sterilization, ozonization, ultraviolet light or gamma rays irradiation or addition of antimicrobial chemical agents.

108. (New) Process of microencapsulation according to claim 1 characterized in that an additional drying step is made at the end of the process in order to obtain dried microcapsules in the form of powder.

109. (New) Process of microencapsulation according to claim 1 characterized in that at the end of the process, the resulting suspension of microcapsules in water is lyophilized or spray dried.

110. (New) Process of microencapsulation according to claim 1 characterized in that the biologically active material(s) is(are) selected according any of those mentioned in the preceding claims.